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CLAIM AMENDMENTS

1. (currently amended) A system for manipulating a core body temperature of a mammal, the system comprising:

a chamber for enclosing a body portion of a mammal, said chamber comprising:

a base member having a first distal end and a first sealing surface;

a moveable member adapted to matingly engage said base member; wherein the moveable member has a second distal end pivotally mounted to said first distal end of the base member and a second sealing surface which reciprocably contacts said first sealing surface to enclose said body portion within said chamber, and

a fastener adapted to maintain engagement of said base member with said moveable member, wherein the moveable member moves toward the base member to enclose the body portion in the chamber and the moveable member moves away from the base member to remove the body portion from the chamber;

a seal in operative association with said chamber for sealing said chamber around said body portion and for inhibiting movement of said body portion relative to said chamber when the system is in operation;

a thermal energy exchange system in operative association with said chamber, wherein said thermal energy exchange system comprises an energy element assembly coupled to a flexible membrane assembly, wherein said flexible membrane assembly (i) facilitates an exchange of energy between said energy element assembly and said body portion and (ii) comprises a first flexible membrane associated with an interior surface of said moveable member and a second flexible membrane associated with an interior surface of said base member, wherein said first flexible membrane and said second flexible membrane are each configured to enhance surface contact between said energy element assembly and said body portion; and wherein said energy element assembly comprises a first energy element in association with said first flexible membrane and a second energy element in association with said second flexible membrane; wherein said first energy element and said second energy element are adapted

to enable an exchange of energy via said body portion between each of said first energy element and said second energy element and said thermal core of said mammal; and

a vacuum system operatively associated with said chamber while said thermal energy exchange system is in operation, wherein said vacuum system generates a sub-atmospheric pressure within said chamber.

2. (original) The system of claim 1 ~~10~~, wherein said body portion is one of an extremity, part of an extremity, a head, a neck, and a torso.

3-6. (canceled)

7. (original) The system of claim 1~~6~~ to, wherein said seal comprises:

a first cuff positioned at a proximate end of said interior surface of said moveable member; and

a second cuff positioned at a proximate end of said interior surface of said base member;

wherein said first cuff and said second cuff are configured to Surround said body portion when said moveable member contacts said base member to enclose said body portion within said chamber.

8. (original) The system of claim 7, wherein said seal further comprises:

a first bladder at least partially encased within said first cuff; and

a second bladder at least partially encased within said second cuff;

wherein said first bladder and said second bladder are configured to form a pneumatic seal around said body portion during operation of the system.

9. (original) The system of claim 8, wherein said first bladder and said second bladder are operatively associated with a pressure system which provides positive pressure to expand said first bladder and said second bladder around said body portion during operation of the system.

10. (cancelled)

11. (original) The system of claim 1 ~~10~~, wherein each of said first energy element and said second energy element is further adapted to enhance surface contact with said body portion

12. (original) The system of claim 1 ~~10~~, wherein said first energy element and said second energy element each comprises one of a heating element and a cooling element.

13. (original) The system of claim 1 ~~10~~, wherein said first energy element and said second energy element are each configured to maintain a surface temperature of from about 5°C to about 48 °C.

14. (original) The system of claim 1 ~~10~~, wherein said thermal energy exchange system further comprises at least one backing layer which is contiguous with at least one of said first energy element and said second energy element and contacts at least one of said first flexible membrane and said second flexible membrane.

15. (original) The system of claim 14, wherein said at least one backing layer comprises an insulating material.

16. (original) The system of claim 15, wherein said insulating material comprises a phase change material.

17. (original) The system of claim 1 ~~10~~, wherein said thermal energy exchange system further comprises:

a circulation pump;

a fluid reservoir in operative association with said circulation pump; and

a temperature regulator coupled to said fluid reservoir.

18. (original) The system of claim 17, wherein each of said first energy element and said second energy element each comprises a perfusion pad which is configured to be perfused with a temperature-regulated fluid.

19. (original) The system of claim 18, wherein said temperature-regulated fluid is a liquid.

20. (original) The system of claim 19, wherein said liquid is water.

21-31. (canceled)

32. (original) The system of claim 1, wherein said selected sub-atmospheric pressure is from about –10 mmHg to about –400 mmHg, relative to atmospheric pressure.

33. (original) The system of claim 32, wherein said vacuum system alternates between generating said selected sub-atmospheric pressure and permitting a return to atmospheric pressure within said chamber during operation of the system

34. (previously amended) The system of claim 1, further comprising a sleeve into which said body portion is inserted prior to enclosement within said chamber.

35. (original) The system of claim 34, wherein said sleeve comprises a first layer which is attached to a second layer to form a pocket into which said body portion is placed.

36. (original) The system of claim 35, wherein said first layer is transparent.

37. (original) The system of claim 35, wherein at least one of said first layer and said second layer is impregnated with a silver compound.

38. (original) The system of claim 35, wherein at least one of said first layer and said second layer is associated with an insulating material.

39. (original) The system of claim 38, wherein said insulating material comprises a phase change material.

40. (previously amended) The system of claim 1, wherein

the base member has a first side and a first sealing surface; and

a moveable member has a second side pivotally mounted to said first side and a second sealing surface which reciprocably contacts said first sealing surface to enclose said body portion within said chamber.

41. (canceled)

42. (original) The system of claim 40, said flexible membrane assembly comprising a first flexible membrane associated with an interior surface of said moveable member and a second flexible membrane associated with an interior surface of said base member, wherein said first flexible membrane and said second flexible membrane are each configured to enhance surface contact between said energy element and said body portion.

43. (original) The system of claim 42, wherein said seal comprises:

a first cuff positioned at a proximate end of said interior surface of said moveable member,

a second cuff positioned at a proximate end of said interior surface of said base member;

a third cuff positioned at a distal end of said interior surface of said moveable member; and

a fourth cuff positioned at a distal end of said interior surface of said base member;

wherein said first and second cuffs are configured to form a first collar and said third and fourth cuffs are configured to form a second collar around said body portion when said moveable member contacts said base member, such that said body portion is enclosed within said chamber.

44. (original) The system of claim 43, wherein said seal farther comprises:

a first bladder at least partially encased within said first cuff;

a second bladder at least partially encased within said second cuff;

a third bladder at least partially encased within said third cuff, and

a fourth bladder at least partially encased within said fourth cuff;

wherein said first bladder and said second bladder form a proximate bladder pair, said third bladder and said fourth bladder form a distal bladder pair, and each of said proximate bladder pair and said distal bladder pair is configured to form pneumatic seals around said body portion during operation of the system.

45-120. (cancelled)